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EXAMINER

KLIMOWICZ, WILLIAM JOSEPH

ART UNIT PAPER NUMBER

2652

DATE MAILED: 07/30/2003

7

Please find below and/or attached an Office communication concerning this application or proceeding.

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| Office Action Summary | Application No. | Applicant(s) |
|------------------------------|------------------------|---------------------|
| | 09/883,899 | KONDO ET AL. |
| Examiner | Art Unit | |
| William J. Klimowicz | 2652 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 27 June 2003.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-9 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-9 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. _____.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____

4) Interview Summary (PTO-413) Paper No(s). _____
5) Notice of Informal Patent Application (PTO-152)
6) Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claim 3, lines 1-2, the phrase “wherein said flux guide is formed as a part of said magnetoresistance film” is inconsistent with the newly added limitation to claim 1, lines 3-4, which now recites “a flux guide (11) formed so as to overlap said magnetoresistance film.”

More concretely, claim 3 references the second embodiment of the disclosure (e.g., FIGS. 7-10B). As shown and described by the Applicants’ disclosure, the flux guide (31) is NOT overlapping the magnetoresistance film (30), but is formed as a part of the magnetoresistance film (30). Contrast this with the first disclosed embodiment of FIGS. 1-6B of Applicants’ disclosure, wherein the flux guide (8 or 9) overlaps the magnetoresistance film (10).

Thus, the claim inconsistency as noted *supra*, with respect to claim 3, renders the claim indefinite in light of the Applicants’ disclosure.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 8 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Hoshiya et al. (JP 8-339514 A).

As per claims 1 and 8 (and in part, new claim 9), Hoshiya et al. (JP 8-339514 A) discloses a magnetic head comprising: a magnetoresistance film (10); a flux guide (11) formed so as to overlap said magnetoresistance film, the flux guide guiding a signal magnetic field (64) from a magnetic recording medium (91) to said magnetoresistance film (10); and a flux-guide regulating film (37 and/or 38) aligning magnetic domains of said flux guide (11) into a single magnetic domain (i.e., a magnetic domain control layer which is a head bias layer or an antiferromagnetic film - see abstract). More concretely, as clearly depicted in FIGS. 4, 6, 7, 8 and 9, there is a slight overlap of flux guide (11) with the magnetoresistance film (10) due to the clearly depicted taper of film (11) over film (10). Due to this slight, but clear taper, film (11) can be unquestionably said to overlap film (10).

As per claim 2, said flux guide (11) is formed as a separate element from said magnetoresistance film (10).

As per claims 3 and 9, said flux guide is formed as a part of said magnetoresistance film (10) - see FIG. 8.

As per claim 4, wherein at least one of sides and surfaces of said flux-guide regulating film (37 and/or 38) is magnetically connected with said flux guide (11). See FIGS.

As per claim 5, wherein the flux-guide regulating film (37 and/or 38) is one of a highly coercive-force film and an antiferromagnetic film. See abstract of Hoshiya et al. (JP 8-339514 A).

As per claim 6, said flux-guide regulating film (37 and/or 38) also aligns magnetic domains of said magnetoresistance film (11) into a single magnetic domain. See abstract of Hoshiya et al. (JP 8-339514 A).

As per claim 8, Hoshiya et al. (JP 8-339514 A) additionally discloses a magnetic reproducing device (FIG. 2) comprising a magnetic head (90) which includes the structure as set forth, *supra*.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoshiya et al. (JP 8-339514 A).

See the description of Hoshiya et al. (JP 8-339514 A), *supra*.

With regard to claim 7, although Hoshiya et al. (JP 8-339514 A) remains silent with respect to the specific type of magnetoresistance film as being one of a spin-valve type and a tunnel-junction type, Official notice is taken that magnetoresistance films being formed of one of a spin-valve type and a tunnel-junction type are notoriously old and well known in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the magnetoresistance film (10) of Hoshiya et al. (JP 8-339514 A) as being a conventional spin-valve type and a tunnel-junction type as is well known.

The rationale is as follows: one of ordinary skill in the art would have been motivated to provide the magnetoresistance film (10) of Hoshiya et al. (JP 8-339514 A) as being a conventional spin-valve type and a tunnel-junction type as is well known in order to provide enhanced sensitivity of the reading sensor by increasing the MR ratio using such conventionally known spin-valve type or tunnel-junction type MR sensors, as is well known, established and appreciated in the art.

Response to Arguments

Applicants' arguments filed June 27, 2003 (Paper No. 6) have been fully considered but they are not persuasive.

The Applicants allege that Hoshiya et al. (JP 8-339514 A) does not expressly show wherein the flux guide (11) is deposited at a position facing the recording medium.

The Examiner maintains that not only are Applicants' remarks not commensurate with the invention as claimed (limitations contained therein cannot be read into the claims for the purpose of avoiding prior art - *In re Sporck*, 386 F.2d 924, 155 USPQ 687 (CCPA 1968)), but that Hoshiya et al. (JP 8-339514 A) does indeed show such structure (e.g., FIG. 6).

The Applicants allege that Hoshiya et al. (JP 8-339514 A) does not show an overlapping of the magnetoresistance film with a flux guide.

As set forth in the rejection, *supra*, as clearly depicted in FIGS. 4, 6, 7, 8 and 9 of Hoshiya et al. (JP 8-339514 A), there is a slight overlap of flux guide (11) with the magnetoresistance film (10) due to the clearly depicted taper of film (11) over film (10). Due to this slight, but clear taper, film (11) can be unquestionably said to overlap film (10).

Applicants argue that Hoshiya et al. (JP 8-339514 A) fails to disclose wherein the flux guide is formed as a part of the magnetoresistance film.

The Examiner maintains that the embodiments of FIG. 8 of Hoshiya et al. (JP 8-339514 A) discloses wherein the flux guide is unitarily formed of the element (10) since it guides flux to the sensor (10). Alternatively, it can be said that the other depicted embodiments of Hoshiya et al. (JP 8-339514 A) disclose wherein the flux guide intimately contacts the MR element, and hence can be construed as being formed as a part of the MR film. Nothing in claims 3 and 9 distinguish as to how the MR film and flux guide are different than the structure of the embodiments of Hoshiya et al. (JP 8-339514 A). In fact, Applicants' drawings in FIGS. 8B-10B of the instant application depict wherein the element (31) appears to be contacting MR film (30), but is still indicated as a separate element as shown by its own rectangular box (31). That is, box (31), representing the flux guide, is shown as a distinct box than box (30), which represents the MR film.

Conclusion

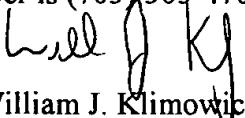
THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William J. Klimowicz whose telephone number is (703) 305-3452. The examiner can normally be reached on Monday-Thursday (6:30AM-5:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (703) 305-9687. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.


William J. Klimowicz
Primary Examiner
Art Unit 2652

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WJK

July 29, 2003